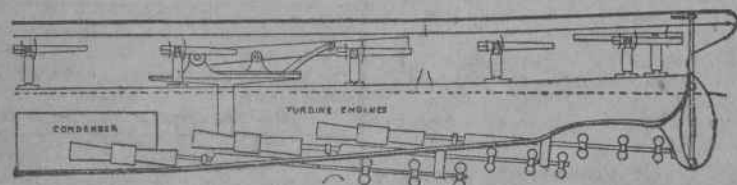
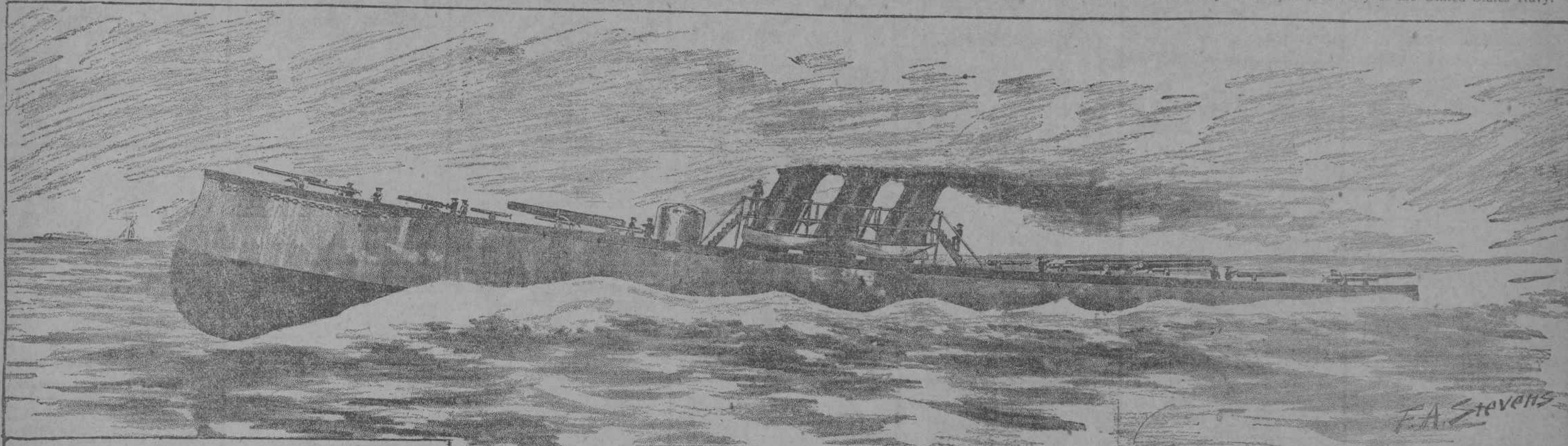
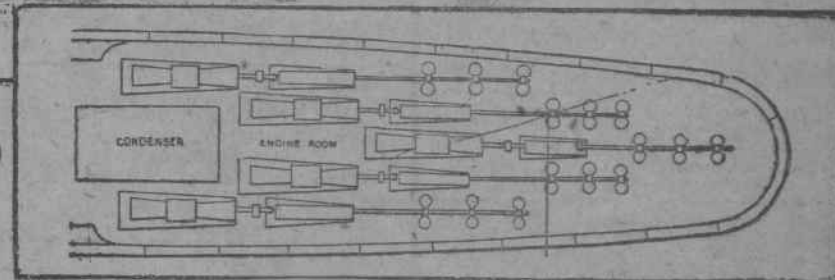


A FORTY-KNOT COMMERCE DESTROYER OFFERED TO THE NAVY.

The Projected Fast Cruiser, Driven by Fifteen Screws and Equipped with Turbine Engines and a Rapid-fire Battery, Would Outrun any War Ship Afloat—From Plans of Lieutenant J. W. Graydon, formerly of the United States Navy.



CROSS SECTION SHOWING THREE OF THE SHAFTS.



VERTICLE SECTION SHOWING HER FIFTEEN SCREWS.

BATTLESHIPS AND CRUISERS TO BEAT ALL THE WORLD.

THE Spanish war has given a great impetus to naval architecture. The minds of the world's great naval architects, engineers and builders are at work on new improvements for the line-of-battle ships of the future. The lessons of the war are already being applied to the new craft under way for our own navy. In England the British Admiralty has been favorably impressed with the value of the turbine method of propulsion, which has produced such wonderful results in the speedy little Turbinals.

The writer of the following letter to viz.: The smaller size of 100 tons, the



Memela, the South African Chief who Captured the Pope's \$1,000,000 Diamond.

the Journal, James Weir Graydon, formerly of the United States Navy, is also an inventor along the line of turbine propulsion, for which he predicts great things. He is the inventor of the "Graydon Great Wheel," in use in Paris, Vienna and London, and of numerous other inventions. The accompanying picture of a 40-knot commerce destroyer, equipped with rapid-fire guns, was drawn from Lieutenant Graydon's plans and submitted to the Sunday Journal. It will be noticed that this record-breaking flyer will be propelled by a series of five shafts, each equipped with three screws. She will thus be equipped with a more powerful propelling mechanism than any craft of her size now in commission or under construction. Such a vessel will, of course, be unarmored. With her enormous speed she will be able to overtake or to show her heels to anything afloat. She would make short work of such vessels as the Yale or the Harvard, and would make things lively for the torpedo boats of the swiftest and most vulnerable type.

By James Weir Graydon.

Lieutenant United States Navy.

To the Editor of the Journal:

I am prepared to build battle ships, armored cruisers, cruisers and torpedo boats, fitted with my new system of turbine engines, which will have a guaranteed speed sufficient to enable them to run away from, or to run away all around, a modern fleet. These new engines are improvements on all heretofore known turbine engines, avoiding their mistakes and utilizing the latest experiments. Thus I shall be able to provide the very latest improvements in engines, whose adoption will enable me to give:

First—The heaviest battle ships a racing speed of thirty-five knots an hour when necessary.

Second—Armored cruisers a racing speed of thirty-eight knots an hour.

Third—Cruisers (commerce destroyers, etc.) a racing speed of forty knots an hour.

HOW THE POPE'S DIAMOND LOOKED IN THE ROUGH.

medium size of 250 tons and the larger size of 400 tons, and these three will cover the uses and supersede all torpedo boats and destroyers as now designed, acting also as scouts, dispatch vessels and commerce destroyers.

American naval architects will make a grave mistake in failing to recognize the fact that the turbine engine is the engine of the future. Should they still hold on to the old-fashioned crank shaft cylinder piston engines the new navy will be inferior to the coming navies of the world.

Among other improvements to be applied to the destroyers and other vessels are liquid fuel boilers and an automatic system of opening and closing the doors of water-tight compartments on board ship. The latter is a most important invention to prevent disaster at sea by the turning of a valve on deck the whole of the compartments are automatically and instantly closed upon danger of a collision.

The adoption of this invention will prevent many disasters at sea. Vessels in collision will, by the instantaneous and automatic operation of this invention, be enabled to remain afloat and gain their ports of destination.

Had the Victoria, when rammed by the Camperdown, been fitted with this system, she would to-day be afloat to serve Her Majesty, and many hundreds of other like disasters could have been prevented.

JAMES WEIR GRAYDON,
Lieutenant of United States Navy.
London, Sept. 30.

BREAKING A MOTHER'S HEART BY TRYING TO MAKE A CHRISTIAN OF LITTLE CHINESE AH FOON.

LITTLE Ah Foon is going to be a Christian. Miss Clarke, of the American Mission, says so, and Miss Clarke ought to know.

She has taken away the purple jacket of Ah Foon, and the wide, blue, shiny blouse and the little scarlet and green cap, embroidered with the Joss letters that keep the devils away, and she has put little Ah Foon's feet into bargain counter shoes, and she has made her wear a clean gingham apron, and she has given her a brand new doll to play with—and little Ah Foon smiles like an almond-checked doll. But sometimes she cries and says she wants to go and see her mother and her father, and sometimes she even says she does not want to be a Christian. But she will be one, for Miss Clarke, of the American Mission, says so, and Miss Clarke, of the American Mission, really ought to know.

Little Ah Foon lived down in Chinatown a few weeks ago.

She had to climb six pairs of narrow, dirty stairs to her home near the roof. She slept in a funny little bunk, with a red paper lantern at the foot of it, and a couple of Joss sticks burning at the head of it. She had nothing to do but sing songs and play and learn to sew and help her mother with the cooking and go to the theatre and see her father in his green mask, and slip into the Joss house and knock her sleek little shining head on the floor before the great Joss, and ask him please to make the little mother's cough get better so that her chest should not ache with the pain.

Now little Ah Foon has a great deal to do. She must bathe, and she must dress, and she must learn nice little songs, and she must sing them to the people who visit the home of Miss Clarke, of the American Mission, and she has plenty to eat and a clean bed to sleep in, and clean air to breathe, and clean, respectable Christians to talk to—and yet sometimes she cries and says she wants to go home to Chinatown and climb the six pairs of narrow, dirty stairs and smell the fish frying and the Joss sticks burning and see her queer little Chinese mother and ask her to sing to her again the funny little children's love song without any tune to it, and go to sleep at home with her own people. But Miss Clarke, of the American Mission, says no—and so little Ah Foon must stay and be a Christian.

And little Ah Foon has a piece of striped candy and a new ribbon for her doll, and she learns a new song to sing to the mission people, and they say, "Isn't she cunning?" and she forgets a little, after the manner of children.

But little Ah Foon's mother does not forget. She cannot sleep, she cannot eat, and in the night she huddles down before the ugly old Joss on the mantel and she burns Joss sticks and she begs the Joss to bring back the little Ah Foon or her heart will break. She lives down in Mott street, up the six pairs of narrow, dirty stairs that little Ah Foon dreams of, in her clean, little bed at Miss Clarke's.

I went to see her there yesterday. The little room where Ah Foon's mother lives is clean and sunny. There's a red curtain at the door and there's a row of printed prayers on the wall, and there's a fat little, leering, yellow god on the mantel.

Ah Foon's mother sat cross-legged on the floor, sewing. She is a little, moon-faced creature, with slanting eyes and a round, supple little body.

When I went in she looked up from her sewing and looked away again, with a kind of desperate resignation at the manners of the prying Christians, who will not let a mother whose heart is sore cry alone.

"Is this the mother of the little Ah Foon?" I said. "Ah Foon!"—The queer little, doll-like creature sprang to her feet.

"Ah Foon!" Her moon face flushed scarlet, and her mouth began to twitch.

"You know—you see Ah Foon?"

When the interpreter came he told me all about it.

"The little Ah Foon is my little girl," she said.

"She is all we have, the little Ah Foon. She is six years old in the moon of Snow. When I was sick Miss Clarke, at the mission, she said she would take the little Ah Foon when I was at the hospital. I said 'Thank you,' to Miss Clarke, and I pray to the Joss to remember her—that she was kind to a Chinese woman in her trouble.

"When I come from the hospital I could not see my little Ah Foon, and Miss Clarke says she will keep her—she will keep her all time. She never come again to me.

"Miss Clarke is moved. I cannot find my little Ah Foon. The policeman say I must not go to Miss Clarke and make the trouble to talk all the time of my little Ah Foon. She is going to be a Christian, and dress like the foreign devils, and be laugh at me, and I don't know. I come home and I don't know. My little Ah Foon—Miss Clarke will not hurt her—but I think she cry for me; I think she cry for her father. He is actor at the theatre. Little Ah Foon, she like to go and see him with the green mask on; she laugh then. I think my little Ah Foon cries for me, and that makes me not to sleep.

"It is not easy to sleep when your little baby cry for you. I think if Miss Clarke will not give me my little Ah Foon—I think I die! She is all we have. We are poor—we must live here. Miss Clarke does not like it that we live here. But we must. It is high up. There are many stairs, the room is small. Miss Clarke say bad people live in this street. I don't know; we do not see them, my little Ah Foon and I.

"Ah Chow, the woman that comes to sit with me, she says the Joss does not like that I let my little Ah Foon learn the songs of the white people's Joss, and that he make Miss Clarke take my little girl away from me.

"I don't know—the Joss of the Christians—does he like to hear it when a little Chinese girl cries for her mother?

"Maybe that is why Miss Clarke take my little girl—to please the Christian Joss—do you think?"

I told her that I would go and see Miss Clarke myself and tell her how hard it is to be alone in a little room, near the roof, and to be awake because you think your baby is crying for you. She listened intently. When I had finished she said:

"Tell her—tell the little Ah Foon—she must be a good little China woman, and she must not cry. Tell her it is not good—that the China Joss hear her cry. She must be a woman. And tell her that I am coming soon—soon—to find her; and tell her that we will have a feast and sing together the song of the seven little emerald-eyed daughters of the stork. And she must not cry—and she must not cry—and—"

The queer little woman's sing-song voice broke huskily. "I will tell her," I said. And I went to tell her.

Miss Clarke of the American Mission, had nothing to say. I tried to tell her about the little woman with the sing-song voice, who bade little Ah Foon not to cry, but Miss Clarke had nothing to say and nothing to hear. She was busy teaching her class of Chinese to spell and to write and to read the Bible.

So the little Ah Foon is going to be a Christian, and the little Ah Foon's mother is going to die of a broken heart.

I wonder if the Christian Joss likes to hear it, when a little Chinese girl cries for her mother," said the queer little moon-faced Chinese woman, who bade her baby not to cry. When I had seen Miss Clarke I began to wonder, too.

Which Is Making the Mother Very Heart-Sick and Tearful, and She Says the Chinese Joss Will Not Like It a Bit, Either.

Little Ah Foon and Her Mother, Who Are Now Separated Because Little Ah Foon Is Going to Be a Christian.



HOW SCIENCE CAN NOW MASSAGE THE EYES.

AN instrument for massaging the eye has been invented by a Frenchman named Lilou, and is said to have produced wonderful results.

It is particularly valuable in treating myopia, or short sight, a disease for which no remedy had been found hitherto, except the wearing of glasses. It has been used by M. Landolt and other well-known French oculists, who believe that it will prove of the greatest benefit to people with weak eyes.

The instrument consists principally of two tubes, which can be fixed at various distances nearer to the retina, and thus be

by their protruding eyes. This is called auxiliary myopia. In others the crystalline lens has too great a refractive power and forms a convex lens.

The massaging instrument causes the hardening of the eye to disappear and gradually restores to it its normal form. In cases of auxiliary myopia is almost always cured by this process, and from the first use the amelioration is appreciable. Crystalline myopia is more obstinate. There is, however, always an improvement. The pressure exercised by the apparatus brings the eye two tubes, which can be fixed at various distances nearer to the retina, and thus be



THE WONDERFUL NEW FRENCH EYE-MASSAGING MACHINE.

distances from one another, according to the position of the patient's eyes. These tubes have at the end two polished glasses, which are pressed on the eyelids when the operator touches a button which controls the two tubes. He can keep exact account of the pressure exercised by means of a dynamometer placed above the button.

The instrument is very simple. It is adjusted to the eye on the closed eyelids at the exact point where the massage is required. This is a matter to be determined by the oculist. The pressure can be calculated to a gramme. The patient never suffers any pain. At the end of a few minutes, eight or ten ordinarily, he feels a slight fatigue. The massaging is immediately stopped, and therefore cannot be injurious.

This instrument is above all applicable to myopia, which is the most general of all affections of the eye. In this disease the eye is deformed in such a manner that the rays coming from objects after having passed through the cornea and the crystalline lens form their image too far in front of the retina and do not induce the optic nerve sufficiently to produce a clear impression. Myopic persons can, therefore, only see at extremely short distances, because of the immovability or hardening of the nerves which should adjust the eye to various distances. There are several classes of myopic persons. Some have the cornea and crystalline lens too far from the retina and may be recognized

ens the effect of refraction. Progressive myopia is not only stopped, but often improved by the instrument. In any case, total blindness is avoided.

Romance of the Pope's \$1,000,000 Diamond.

MEMELA, an aged South African negro, lately told a secret that links him in history with Pope Leo and President Oom Paul Kruger, of the Transvaal. It was Memela who possessed the wonderful million-dollar diamond which President Kruger recently presented to His Holiness the Pope. As an act of gratitude for freeing him many years ago from slavery to the Boers, who had captured him, Memela gave Kruger this beautiful stone which he had long carried concealed on his body.

For a century before that it had been a sacred talisman of savage chieftains. It belonged first to Memeha, the powerful chief of the Basuto nation, who gave it as a friendly offering to the great King of the Zulus, Chaka. The story that it existed in his brother led to Chaka's assassination. Then followed a long line of plotting and hideous crimes for its possession among rival chiefs.

White men seeing it, finally attempted to secure it, but were refused. The native chief's suspicions being aroused, a war against the whites was begun which resulted in the killing of a thousand Boers, and many times that number of blacks.

When many chiefs were dead Memela came into power, and got possession of the wonderful gem. His capture, slavery and escape, and his gift of the talisman to Kruger in gratitude complete the history of what is believed to be the largest and most precious diamond in the world. It was originally a rhombicuboctahedron in shape, that is, having six sides of rhombic shape. It was so large that Memela's large fingers could scarcely close round it across its greatest length.